



CAS[®]

A DIVISION OF THE
AMERICAN CHEMICAL SOCIETY

Client Services

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March 14, 2017

Industrial Minerals Association-North America
ATTN: Mr. Mark G. Ellis
1200 18th Street, NW
Suite 1150
Washington, D.C. 20036

Dear Mr. Mark G. Ellis:

Thank you for your Client Services Registry Lookup Request of March 14, 2017. The results of your order number 416903, are as follows:

CAS Registry Number Requests

- Please see enclosed for the CAS Registry record for 77536-68-6.
- Please see enclosed for the CAS Registry record for 14567-73-8.

Please review the enclosed results to ensure that they accurately represent the substance data you have requested.

The processing cost of this order will be charged to your American Express card.

Thank you for the opportunity to provide this service. If you have any questions during your review, please do not hesitate to contact me.

Sincerely,

Heather Cooper
CAS Client Services

Enclosures

ANSWER 1 REGISTRY COPYRIGHT 2017 ACS on STN

RN 77536-68-6 REGISTRY * REGISTRY COPYRIGHT 2017 ACS on STN

RN 77536-68-6 REGISTRY *

* Use of this CAS Registry Number alone as a search term in other STN files may result in incomplete search results. For additional information, enter HELP RN* at an online arrow prompt (=>).

ED Entered STN: 16 Nov 1984

CN Asbestos, tremolite (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Tremolite asbestos

MF Unspecified

CI MAN, CTS

LC STN Files: BIOSIS, CHEMLIST, CIN, MSDS-OHS, RTECS*, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

ANSWER 1 REGISTRY COPYRIGHT 2017 ACS on STN

RN 14567-73-8 REGISTRY REGISTRY COPYRIGHT 2017 ACS on STN

RN 14567-73-8 REGISTRY

ED Entered STN: 25 May 1989

CN Tremolite (Ca₂[(Mg_{0.9}-1Fe_{0.1})_{4.5}-5Al_{0.5}](Si_{7.5}-8Al_{0.5})(OH)₂)₂)
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Tremolite (8CI)

OTHER NAMES:

CN Abkhazite

DR 12413-24-0, 57456-46-9, 60649-53-8, 65452-00-8

MF Al . Ca . Fe . H O₃ Si . Mg . O₃ Si . O

AF Al_{0.1}-1 Ca₂ Fe_{0.5} H₂ Mg_{4.05}-5 O₂₄ Si_{7.5}-8

CI MNS, TIS

LC STN Files: BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CBNB, CHEMLIST,
CIN, EMBASE, IFIAL, MEDLINE, MSDS-OHS, PIRA, RTECS*, TOXCENTER,
USPAT2, USPATFULL, USPATOLD

(*File contains numerically searchable property data)

Component	Ratio	Component Registry Number
HO ₃ Si	2	22526-95-0
O	0 - 1.5	17778-80-2
O ₃ Si	5.5 - 6	15593-90-5
Ca	2	7440-70-2
Mg	4.05 - 5	7439-95-4
Fe	0 - 0.5	7439-89-6
Al	0 - 1	7429-90-5

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2023 REFERENCES IN FILE CA (1907 TO DATE)

16 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

2102 REFERENCES IN FILE CAPLUS (1907 TO DATE)

Inventory Status Information from the CAS Registry File

Enclosed are CAS prints from the CAS Registry File which is available on STN International. These prints provide inventory status information for the **Toxic Substances Control Act Chemical Substances Inventory** (TSCA), the **Canadian Domestic Substances List** (DSL) and **Non-domestic Substances List** (NDSL), and the **European Inventory of Existing Commercial Chemical Substances** (EINECS). This document explains where to find inventory status flags (the acronyms TSCA, DSL, NDSL, and EINECS) if they are present on your prints, and what the presence, or absence, of these flags indicates.

Locating Inventory Flags

Examine your prints for an "LC" field. If any inventory status flags have been associated with the CAS Registry Number (CASRN) for this substance, they will be listed in the "LC" field under the heading "Other Sources". If either the "LC" field or the heading "Other Sources" are not present, then no inventory flags have been associated with this CAS Registry Number.

Offline Print Example

```
L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2013 ACS on STN
RN ***72953-48-1*** REGISTRY
CN Benzonitrile, 2-chloro-4-[2-(2-methyl-1H-indol-3-yl)diazenyl]- (CA
  INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzonitrile, 2-chloro-4-(2-methylindol-3-ylazo)- (6CI)
CN Benzonitrile, 2-chloro-4-[(2-methyl-1H-indol-3-yl)azo]- (9CI)
MF C16 H11 Cl N4
LC STN Files: CA, CAPLUS, CHEMLIST, USPATOLD
  ▲ Other Sources: DSL**, EINECS**, TSCA**
    (**Enter CHEMLIST File for up-to-date regulatory information)
```

LC Field

Inventory Flags

(Continued on other side)

What does the presence, or absence, of an inventory flag indicate?

TSCA Flag

The presence of the TSCA flag indicates this CASRN was listed on the TSCA inventory as of April 29, 2016. If this flag is not present, then this CASRN was not listed on the non-confidential portion of the TSCA inventory as of April 29, 2016.

Since TSCA is a dynamic inventory, it is not possible for us to certify whether substances are currently on the TSCA inventory. For this information, a bonafide intent to manufacture should be filed with the U.S. EPA

Information concerning the filing of a Bona Fide Intent to Manufacture may be obtained from www.epa.gov/oppt/newchemicals/pubs/findsubs.htm or by calling the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404.

DSL and NDSL Flags

The presence of the DSL or NDSL flag indicates this CASRN was listed on the corresponding inventory as of May, 1998. If these flags are not present, then this CASRN was not listed on the nonconfidential portion of these inventories as of May, 1998.

Since the DSL and NDSL are dynamic inventories, it is not possible for us to certify whether substances are currently on these inventories.

Further information regarding these inventories may be obtained by contacting Environment Canada at 800-567-1999 (calls within Canada) or 819-953-7156 (calls outside of Canada).

EINECS Flag

The presence of the EINECS flag indicates this CASRN is listed on the EINECS inventory. If this flag is not present, then this CASRN is not listed on the EINECS inventory. EINECS is a static inventory.

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Substance Information Display Field Codes

AF	Alternate Molecular Formula
AR	Alternate CAS Registry Number
CCI	Component Class Identifier
CCN	Condensed Chemical Name (all names)
CI	Class Identifier
CIL	Component Isotope at Unknown Location
CMF	Component Molecular Formula
CN	Chemical Name (up to 50)
COMP	Composition
CRN	Component CAS Registry Number
DEF	Definition
DR	Deleted CAS Registry Number
ED	Entry Date
ENTE	Editor Note
FCN	All Chemical Names
FS	File Segment
IL	Isotope at Unknown Location
IN	CA Index Name
LC	CAS Registry Number Locator
MF	Molecular Formula
PCT	Polymer Class Term
PR	Preferred CAS Registry Number
REF	Number of References in CPlus and CA files and the number of references in CA for the non-specific derivatives
RN	CAS Registry Number
RR	Replacing CAS Registry Number
RSD	Ring System Data
SCN	Short Chemical Name (IN and OTHER NAMES)
SR	Source of Registration
SRSD	Short Ring System Data
STR	Structure Diagram with stereo bond and R/S/Z/E designations, if available
STF	Flat Structure Diagram (no stereo bonds)
STS	Structure Diagram with stereo bonds, if available

Biosequence Field Codes

NA	Nucleic Acid
NTE	Note
PNTE	Patent Annotation
SEQ	Sequence (1-letter amino acid codes)
SEQ3	Sequence (3-letter amino acid codes)
SQL	Sequence Length

Property Field Codes

BCF	Bioconcentration Factor
BP	Boiling Point
DEN	Density

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ECND	Electric Conductivity
EOON	Electric Conductance
ERES	Electric Resistance
EREST	Electric Resistivity
ETAG (TAGS)	Experimental Property Tags
FP	Flash Point
FRB	Freely Rotable Bonds
HAC	H acceptors
HD	H donors
HDAS	H Donor/Acceptor Sum
HVAP	Enthalpy of Vaporization
ISLB.MASS	Mass Intrinsic Solubility
ISLB.MOL	Intrinsic Molar Solubility
KOC	Organic Carbon Adsorption Coefficient
LD50	Median Lethal Dose
LOGD	logD
LOGP	logP
MM	Magnetic Moment
MP	Melting Point
MMOL	Molar Volume
MW	Molecular Weight
ORP	Optical Rotatory Power
PKA	pKa
PRFA (FA)	Property Fields Available
PSA	Polar Surface Area
RI	Refractive Index
SLB.MASS	Mass Solubility
SLB.MOL	Molar Solubility
SPEC	Spectra
SPEC.B11NMR	Boron-11 NMR Spectra
SPEC.C13NMR	Carbon-13 NMR Spectra
SPEC.F19NMR	Fluorine-19 NMR Spectra
SPEC.H1NMR	Proton NMR Spectra
SPEC.IR	IR Absorption Spectra
SPEC.MASS	Mass Spectra
SPEC.N15NMR	Nitrogen-15 NMR Spectra
SPEC.O17NMR	Oxygen-17 NMR Spectra
SPEC.P31NMR	Phosphorus-31 NMR Spectra
SPEC.PROTONNMR	Proton NMR Spectra
SPEC.RAMAN	Raman Spectra
SPEC.SI29NMR	Silicon-29 NMR Spectra
TG	Glass Transition Temperature
TS	Tensile Strength
VP	Vapor Pressure

Caplus Super Roles and Document Type Display Field codes

DT.CA	Caplus document type
RL	Caplus super roles
RL.NP	Caplus super roles from non-patents
RL.P	Caplus super roles from patents
RLD (RL.D)	Caplus super roles for non-specific derivatives
RLD. NP	Caplus super roles for non-specific derivatives from non-patents
RLD.P	Caplus super roles for non-specific derivatives from patents



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RLS from patents
 CApus super roles for the specific substance
 and its non-specific derivatives